PCB Sampling Plan – Evaluate PCB Remediation Aboard USS Kittiwake (ASR-13)

This plan was prepared and submitted by EPI of Baltimore, MD to the Cayman Islands Tourism Association (CITA) as part of EPA's comment of May 29, 2007 that CITA engage a qualified third party inspector to verify remediation, removal and disposal of PCB-containing materials found on the Kittiwake.

EPA's Office of Solid Waste provides the following comments:

1. The purpose of this PCB sampling plan needs to be clarified. The subtitle of the sampling plan is "Evaluate PCB Remediation Aboard USS Kittiwake (ASR-13)" which implies it will address all PCB remediation and removal on the ship. However, the stated purpose on page one is to "…sets forth the procedures to be followed for post-remedial sampling conducted pursuant to the remediation of surface PCB contamination identified aboard the vessel.". It is not clear whether this document is an addition to EPI's original proposal dated August 2007 or if it was developed in response to EPA's May 29, 2007 request to provide a detailed remediation plan for paint sample #67. If it is an addition or revision to EPI's August 2007 submission, please combine them into a single document.

CITA and EPI need to keep in mind that EPA's recommendation for a 3rd party or independent inspection was not limited to paint or a single area on the vessel but was meant to apply to the remediation of the entire vessel. CITA and EPI need to demonstrate to EPA how EPI will verify remediation, removal and disposal of all known or suspected PCB-containing materials according to CITA/DMG's workplan.

EPA's May 29, 2007 correspondence to MARAD states: "Upon completion of PCB removal, the Cayman Islands should engage a qualified independent third party inspector with PCB experience to verify that CITA/DMG has complied with its proposed PCB remediation and sampling plans for PCBs. EPA retains its discretion and authority to enforce its regulations as EPA deems appropriate."

2. If this PCB sampling plan is related to CITA/DMG paint sample #67, EPA still would like to review CITA/DMG's detailed plans for remediating the area where sample #67 was found not just the post-remediation sampling as described in this sampling plan. Please refer to EPA's May 29, 2007 comments regarding the remediation of sample #67.

3. CITA/DMG and EPI should avoid hot cutting techniques on metal painted with PCB paint or contaminated with PCBs. Hot cutting metal painted with PCB containing paint or contaminated with PCBs is considered "opening burning" and is prohibited under 40 CFR Part 761. If hot cutting techniques must be used in areas with such paint, EPA recommends removing 6 inches of paint on either side of the cut line prior to cutting.

4. **Section 3.0** –

> **Section 3.1** - EPI should recognize the limitations to the 3 documents referenced in section 3.1. It is also not clear how EPI plans to apply the sampling principles in these guidance documents if CITA/DMG plans to physically remove the contaminated metal and paint.

The document entitled "*Compliance with Toxic Substances Control Act (TSCA) PCB Disposal Regulations: Sampling and Analyzing Paint on Metal Surfaces of Vessels Being Scrapped for Metal Recovery*" is not meant for vessels destined for export and/or artificial reefing. This plan was developed as part of an enforcement agreement between EPA and MARAD for domestic scrapping (not for creating artificial reefs or exporting ships) but never finalized or used. It was designed to assist domestic scrappers to locate painted or coated materials or areas containing regulated levels of PCBs and requires only a minimum amount of samples. The draft plan is based on the premise that EPA knew what the final disposal options for both regulated and non-regulated materials would be - final disposal was controlled. Exporting and/or sinking a ship as an artificial reef is not a controlled or final disposal action.

This plan relies on best engineering judgment and was developed without supporting data. The sampling plan does not guarantee or provide any sort of confidence level that all regulated materials will be found. Further, this guidance has never been used, verified or peer reviewed. It only requires a minimum amount of samples and does not provide a level of confidence that regulated levels of PCBs will likely be found.

The other 2 referenced documents (*Verification of PCB Spill Cleanup by Sampling and Analysis (OTS-1985)* and *Field Manual for Grid Sampling of PCB Spill Sites to Verify Cleanup (OTS-1986)* were designed for small, fresh spills of liquid PCBs to soil or other horizontal surfaces not for use on vertical, coated walls or bulkheads.

All 3 documents advocate the use of composite sampling; EPA does not recommend composite sampling for purposes of compliance with TSCA in export and/or artificial reefing situations.

Section 3.3 – This section states the size of the area to be remediated has not been determined. When will this be determined, how will it be determined and what adjustments or revisions will EPI have to make to this sampling plan?

5. **Section 4.0 –**

Section 4.1 – When will an alternate sampling location be needed? Please provide likely examples where a sample will not be possible. Please also describe the method used to make the sample location selection such using a random number generator or other selection process

6. **Section 9.0 –**

Section 9.2 – Method SW-846 8082 is EPA's preferred method for analyzing the sample extracts. Please reference a specific sample extraction method as there are variations on the Soxhlet extraction method. EPA's preferred extraction method is SW-846 3540C (refer to section 5.4.2 for the appropriate solvent). Please also identify an extract cleanup method. EPA's preferred sample extract cleanup method is SW-846 3600.

7. **Section 10.0 –**

Section 10.1 – Revise "≤ 50 ppm" to read "< 50 ppm". Also, the detection limit should be as low as feasible. With a lower detection limit there will be greater scientific certainty regarding any analytical results showing < 50 ppm.
Section 10.2 – Revise "> 50 ppm" to read "≥ 50 ppm".

8. **Figures –**

   Please clarify exactly what the circles in the figures mean. Is the area within the circle border the cut out section and is therefore "empty" or does the center of the circle represent the highest concentration of PCBs found on the bulkhead?